

Surface-borne Time Of Reception Measurements (STORM), Phase I

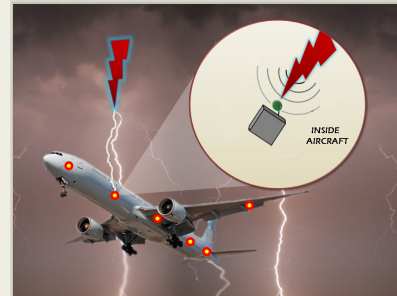
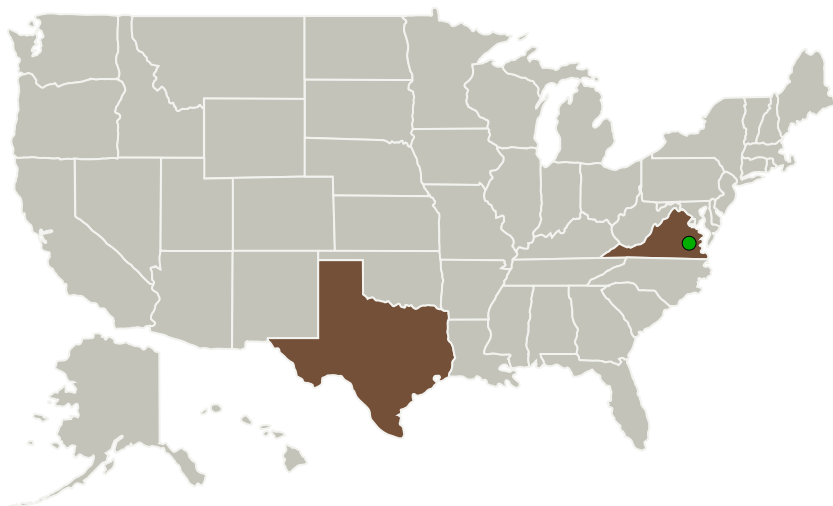
Completed Technology Project (2013 - 2013)



Project Introduction

Invocon has devised a method to determine the location of lightning strikes on structures to as close as 1" by combining simple sensors with highly capable electronics. This method measures a strike from multiple transducers to triangulate its location. Initial testing on metallic and composite structures has provided good results. The next step is to extend the wireless nature of the system to the transducers in order to simplify installation and use of the system. The proposed development is based on nearly 10 years of successfully development and flight testing of high-speed impact detection and evaluation systems combined with lightning detection and location research. It will also take advantage of Invocon's successful 20 year history of deploying highly synchronized wireless networks on aerospace vehicles.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Invocon, Inc.	Lead Organization	Industry Veteran-Owned Small Business (VOSB)	Conroe, Texas
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

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Primary U.S. Work Locations

Texas

Virginia

Project Transitions



May 2013: Project Start



November 2013: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139376>)

Images



Project Image

Surface-borne Time Of Reception Measurements (STORM)

(<https://techport.nasa.gov/image/125982>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Invocon, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Doug Heermann

Co-Investigator:

Doug Heermann

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Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



Technology Areas

Primary:

- TX13 Ground, Test, and Surface Systems
 - └ TX13.1 Infrastructure Optimization
 - └ TX13.1.6 Test, Operations, and Systems Safety

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System